

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004626**Date Inspected:** 14-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Hu Wei Qing and Lvliqing**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and SAS Tower Fabrication**Summary of Items Observed:**

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 7: OBG - Floor Beam Sub Assembly

This QA Inspector randomly observed ZPMC welder ID #044774 and ID #066687 utilizing the FCAW Process in the 2G (Hor. Groove) Position with WPS-B-T-2232-Tc-U4b-F and a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic to weld fill pass on 200mm stiffener end to web plate of FB020-003-112. This QA also observed ZPMC welder ID #044774 CJP welding root pass on web plate to flange tee joint FB024-003-146 using above process and procedure. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

This QA also observed Liu Kaige ID #044830 FCAW(1G) CJP welding root pass on flange to web plate corner joint FB019-002-127 using a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic and following WPS-B-T-2231-Tc-U4b-F.

FCAW(2F) fillet welding on stiffener/flange to web plate FB019-002-068/069 and FB028-003-092 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H following WPS-B-T-2132-3 this QA observed. ZPMC welder, ID #044824 and Chen Chuan Zong were seen performing the

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task. Tack/fit-up of various stiffeners to web plate on floor beam FB028-004 and FB024-004 using THJ506 electrode was also observed.

This QA observed ZPMC/NDE perform MT on floor beams FB015-024, FB-009-020, FB010-020, which are still in progress. No MT done by this QA due to lack of time.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed ZPMC welder ID number ID #048669 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly, NSD1-SA363-7A. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

The QA Inspector randomly observed ZPMC Welders ID #066413, ID #066416, and ID #037997 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 3G (Vertical Groove) Position with Excalibur E9018M H4R, 4.8mm diameter electrode following ZPMC WPS WPS-B-T-3313-Tc-P5 to weld tower double diaphragm PJP fill pass on 40mm thick web plate to 60mm thick stiffener plate tee joint WSD1-SA301A/B weld joints 13, 15 and 16. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Preheating of tower diaphragm flange NSD1-SA362-14 using ceramic thermal blanket was observed prior tack welding fillet weld connection. Root gap measured between the diaphragm flange to the diaphragm plate was less than 8.0mm.

This QA also observed ZPMC/NDE personnel perform initial Magnetic Particle Testing on the flange to plate tower diaphragm fillet weld connections ESD1-SA421-2 and SSD1-SA362-13.

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

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| Inspected By: | Lizardo, Joselito | Quality Assurance Inspector |
| Reviewed By: | Cuellar, Robert | QA Reviewer |
